

Final Report for NAG 5-1676:

Comparative Studies of Outer Planets Using IUE Spectra

Principal Investigator: Dr. H. Warren Moos

Work on this grant has been completed.

The IUE archive contains numerous spectra of the outer planets: Jupiter, Saturn and Uranus. This study utilized these spectra to examine several important phenomena. In particular, the Jovian and Saturnian aurora and airglow were closely examined. The auroral zone spectra depends on the trapped particles in the Jovian magnetosphere and are a powerful way of monitoring this physical process. The airglow spectra are caused by direct solar excitation, energetic electrons from photoionization by solar radiation and possibly trapped particles.